

### **ABSTRACT OF THE DISCLOSURE**

A target object position sensing apparatus for a host vehicle, comprises a lane detection apparatus provided on the host vehicle which includes an image acquisition means adapted to capture an image of at least a part of the road ahead of the host vehicle, a vehicle path estimation means adapted to estimate a projected path for the host vehicle, and a target vehicle detection apparatus which is adapted to identify the position of any target objects located on the road ahead of the host vehicle, the position including data representing the distance of the target vehicle from the host vehicle. A first data processing means determines a target lane in which the host vehicle will be located when it has travelled along the projected path by the distance to the target object and a second processing means compares the position of the target vehicle determined by the target vehicle detection means with the position of the target lane to provide a processed estimate of the actual position of the target object.